REMARKS

This Amendment is in response to the Office Action mailed on December 17, 2002. Claims 1-21 are pending in the application and have been rejected. Applicants respond to the rejection of claims 1-21 as follows.

Response to rejection under 35 U.S.C. § 102

Claims 1-2, 7-8, 10-12, 14-15, 18-19 and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by Evans, U.S. Patent No. 5,862,015. Claim 1 and dependent claims 2, 7-8 and 10-11 have been amended to recite *inter alia* an actuatable transducer configured to induce a transducer signal proportional to head vibration of the head suspension assembly and a detector configured to receive the transducer signal and output a level detected signal which as amended is not taught nor suggested by Evans. Evans discloses a transducer circuit having a resistance which varies with strain and a resistance to voltage converter 17 but does not expressly or inherently teach the subject matter of the amended claims including an actuatable transducer and detector as claimed. In particular, in FIG. 10, Evans discloses a transducer circuit 310 to detect vibration and an actuatable microactuator 338 to position the head but does not teach or suggest an actuatable transducer configured to induce a transducer signal proportional to movement of the head as claimed.

Furthermore, dependent claims 7, 8 and 10-11 were rejected based upon Evans without proper consideration of each of the recited claim elements. It is improper to reject claims without proper consideration of each of the recited claim elements. For example, claim 7 recites a controller coupled to the detector and configured to output a process command to reexecute a write command in drive memory. Claim 8 recites a controller coupled to the transducer and configured to transmit a

signal to the transducer to move the head. Claims 10-11 recite a transducer configured to operate between a detection mode and an actuation mode which as properly construed is not taught nor suggested by col 5, lines 5-27 of Evans as recited in the Office Action.

Rejected claims 12, 14-15 and 18 recite *inter alia* providing a transducer on a movable suspension assembly configured to generate a transducer signal indicative of head vibration and detecting a signal amplitude above a threshold amplitude and outputting a level detected signal indicative of the head vibration which, is not expressly or inherently taught by Evans, nor as properly construed is the subject matter of dependent claims 14-15 and 18.

As set forth in the Office Action, claims 12, 14-15 and 18 were rejected on the basis that the threshold amplitude is considered to be inherent in the detector. To reject claims under 35 U.S.C. § 102 based upon inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill" *Continental Can Co. v Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a give set of circumstances is not sufficient" *Id* at 1269, 20 U.S.P.Q.2d at 1749 (quoting *In re Oelrich,* 666 F.2d 578, 581, 212 U.S.C.Q. 323, 326 (C.C.P.A. 1981).

The Office Action states that

> The threshold amplitude is considered to be inherent in the detector because Evans et al. further discloses that the signals output from the transducer can be used to facilitate 'correction or control of head off-neutral motion as necessary.' In order to determine the necessity and the

> degree of necessity, the output signal level must have been evaluated with respect to reference or threshold level.

The last sentence is a conclusion without any factual support. For example, control of the head off-neutral motion may arise simply from the presence of a signal not a threshold amplitude. Thus, the Office Action's conclusion is at best a possibility and as stated above, inherency may not be established by possibilities. Therefore, Evans et al does not inherently disclose the subject matter claimed.

Claims 19 and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by Evans. Claims 19 and 21 recite *inter alia* a head suspension assembly and detector that provides a signal indicative of vibration associated with the head suspension assembly that is responsive to vibration being greater than a threshold value which, as previously discussed, is not expressly or inherently taught by Evans.

Response to claim rejections - 35 U.S.C. § 103

Claims 3-4, 9, 16-17 and 20 were rejected under 35 U.S.C. § 103 as being unpatentable over Evans in view of Perry. Claims 3-4 are dependent upon claim 1 and recite *inter alia* a frequency filter. Claims 16 and 20 are dependent upon claim 12 and recite *inter alia* a step of filtering a transducer signal which is not obvious in view of the combination of Evan and Perry since *inter alia* there is no basis to modify Evan in view of Perry as set forth in the Office Action since Perry teaches a filter to block normal operating frequencies of the yoke 15 which carries 64 read-write heads. Evans does not teach or suggest a yoke 15 as taught by Perry and thus there is no basis to modify Evans in view of Perry as set forth in the Office Action. Claims 9 and 17 are dependent upon claims 1 and 12 which, as discussed, are allowable over Evans.

Claims 5-6 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans in view of Novotny. Claims 5-6 and 13 are dependent upon claims 1 and 12, the subject matter of which is not taught nor suggested by Evans, as previously discussed, nor the further combination of Novotny. Furthermore, Novotny is prior under 35 U.S.C. § 102(e) and is assigned to the same inventive entity as the present application and accordingly, does not preclude patentability under 35 U.S.C. § 103.

New clams 23-26 recite *inter alia* an actuator coupled to a suspension assembly and a detector coupled to the actuator and configured to receive a signal proportion to vibration of the movable suspension assembly which is not taught nor suggested by Evans.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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MARKED-UP VERSION OF REPLACEMENT CLAIMS

1. (Thrice Amended) A disc drive comprising:

a disc rotationally coupled to a chassis;

a movable head suspension assembly ~~coupled to an actuator and movable thereby~~ having a head coupled thereto ~~to read or write~~movable relative to a surface of the disc;

an actuatable ~~vibration detection~~ transducer supported on the movable head suspension assembly and configured to induce a transducer signal proportional to movement of the head; and

a ~~threshold amplitude~~vibration detector configured to receive the transducer signal and output a level detected signal ~~having a signal amplitude above a threshold amplitude~~ indicative of ~~the~~ head vibration.

3. (Twice Amended) The disc drive of claim 1 wherein the ~~threshold amplitude~~ detector includes a frequency filter.

5. (Twice Amended) The disc drive of claim 1 wherein the ~~vibration detection~~ actuatable transducer is a piezoelectric material.

6. (Twice Amended) The disc drive of claim 1 wherein the ~~vibration detection~~ actuatable transducer is an electrostatic transducer.

8. (Thrice Amended) The disc drive of claim 1 and further comprising:

a ~~microactuator~~ controller coupled to the ~~vibration detection~~ actuatable transducer on the movable head suspension assembly and configured to transmit a signal to the ~~vibration detection~~ actuatable transducer to move the head.

9. (Thrice Amended) The disc drive of claim 1 wherein the disc drive includes a plurality of discs rotationally coupled to the chassis and a plurality of movable head suspension assemblies having heads coupled thereto to read or write to surfaces of the plurality of discs and including an ~~vibration detection~~ actuatable transducer coupled to each of the plurality of movable head suspension assemblies.

10. (Thrice Amended) The disc drive of claim 1 wherein the ~~vibration detection~~ actuatable transducer is configured to operate between a detection mode and an actuation mode, in the detection mode, the actuatable transducer detecting the head vibration and in the actuation mode the ~~vibration detection~~actuatable transducer receiving a signal to energize the ~~vibration detection~~actuatable transducer to move the head.

11. (Thrice Amended) The disc drive of claim 10 including:

a microactuator controller coupled to the ~~vibration detection~~ actuatable transducer and configured to operate the ~~vibration detection~~ actuatable transducer in the actuation mode.

12. (Thrice Amended) A method for operating a disc drive comprising steps of:

(a) providing a ~~vibration detection~~ transducer supported on a movable head suspension assembly having a head coupled thereto configured to

generate a transducer signal indicative of head vibration;

~~(b) moving the movable head suspension assembly to position the head for read write operations;~~ and

(~~e~~b) detecting a signal amplitude of the transducer signal above a threshold amplitude ~~the transducer signal~~ and outputting a level detected signal indicative of the head vibration.

13. (Twice Amended) The method of claim 12 wherein the ~~vibration detection~~ transducer is a piezoelectric transducer.

14. (Thrice Amended) The method of claim 12 and further comprising the step of:

(~~d~~c) transmitting a signal to the ~~vibration detection~~ transducer on the movable suspension assembly to move the head.

15. (Twice Amended) The method of claim 12 and further comprising the step of:

(~~d~~c) transmitting a command to rewrite a write command in drive memory in response to the level detected signal indicative of the head vibration.

16. (Twice Amended) The method of claim 12 and comprising the step of

(~~d~~c) filtering the transducer signal to detect vibration frequencies of the head.

17. (Twice Amended) The method of claim 12 wherein the disc drive includes a plurality of head suspension assemblies and further comprising:

(~~d~~c) individually detecting the head vibration for each

of the plurality of head suspension assemblies.

18. (Twice Amended) The method of claim 12 including a microactuator controller coupled to the ~~vibration detection~~ transducer and configured to transmit a signal to the ~~vibration detection~~ transducer to move the head and comprising the step of:

(~~d~~c) selectively operating the disc drive in a detection mode and an actuation mode, in the detection mode the ~~vibration detection~~ transducer detecting the head vibration and in the actuation mode, the ~~vibration detection~~ transducer moving the head.

20. (Amended) The method of claim 12 and comprising the step of:

(~~d~~c) filtering the transducer signal to detect one of bending or torsion mode vibration frequencies.